

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

(Attorney Docket № 17474US02)

In the Application of:

Akira Yamanaka, et al.

Serial No. 10/773,804

Filed: February 6, 2004

For: METHOD AND SYSTEM FOR
MEASURING IQ PATH MISMATCH

Examiner: Emmanuel Bayard

Group Art Unit: 2611

Confirmation No. 8463

[illegible]

Electronically Filed on 04-APR-2008

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The Applicant requests review of the final rejection in the above-identified application, stated in the final Office Action mailed on January 7, 2008 ("Final Office Action") with a period of reply through April 7, 2008. No amendments are being filed with this request.

This request is being filed with a Notice of Appeal. The review is being requested for the reasons stated on the attached sheets.

REMARKS

The present application includes pending claims 1-23, all of which have been rejected. The Applicant respectfully submits that the claims define patentable subject matter.

Claims 1-2, 5-8, 11-13, 18-19, and 22-23 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 7,155,180, issued to Kim, et al. (hereinafter, Kim). Claims 3-4, 9-10, 14-17, and 20-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim, in view of U.S. Patent Application Publication No. 2004/0203472, issued to Chien (hereinafter, Chien). The Applicant respectfully traverses these rejections at least for the reasons previously set forth during prosecution and at least based on the following remarks.

I. Reply to Final Office Action's Response to Arguments

The Final Office Action states the following:

1. Applicant's arguments filed 10/22/07 have been fully considered but they are not persuasive. In pages 9-11 of the response applicant argues that Kim does not teach "A method for measuring IQ path mismatch in transceivers, the method comprising: estimating a transmitter IQ mismatch in a form of gain and phase response for transmitter I and Q paths sharing a receiver path; and estimating a receiver IQ mismatch in a form of gain and phase response for receiver I and Q paths sharing a signal source" as recited in the Applicant's claim 1. Examiner respectfully disagrees.

2. Applicant relies on fig.3 of Kim to support his arguments. However, the Examiner's rejection is based on fig.9 of Kim which shows each and every element of the claimed limitations as set forth in the office action. Since applicant fails to address the rejection as regard to fig.9 of Kim, applicant's arguments are moot and this case is made final.

See Final Office Action at page 6. The Applicant respectfully disagrees and points out that Applicant's argument stated in pages 9-11 of the October 22, 2007 response is valid for both FIGS. 3 and 9 of Kim. For example, similarly to the mixer circuit of FIG. 3, the mixer circuit of FIG. 9 also comprises an up conversion unit that constitutes a transmitter and a down conversion unit (designated as RECEIVER) for

estimating mismatch generated in the up conversion unit by converting an output signal from the up conversion unit to a base-band output signal. Furthermore, **the mixer circuit of FIG. 9 performs mismatch compensation by making an output signal from the transmitter be inputted to the receiver, during mismatch compensation time.** See Kim, col. 10, lines 36-58. **As clearly seen from Kim's FIG. 9, the transmitter portion mismatch estimation (Mismatch Estimation Tx block) receives its inputs from the receiver portion and does not estimate transmitter IQ mismatch using gain and phase for the transmit I and Q paths, as recited in Applicant's claim 1.** The same principal of operation applies to the mixer circuit in Kim's FIG. 3 (as already explained in the October 22, 2007 response). In addition, the transmitter I and Q paths of Kim do not share a receiver path, as recited in Applicant's claim 1.

The Applicant maintains that Kim does not anticipate claims 1-2, 5-8, 11-13, 18-19, and 22-23.

Without conceding that Kim qualifies as prior art under 35 U.S.C. 102(e), the Applicant respectfully traverses this rejection as follows.

II. Rejection of Independent Claims 1, 7, 13, and 18 under 35 U.S.C. § 102(e)

With regard to the rejection of independent claim 1 under 102(e), the Applicant submits that Kim does not disclose or suggest at least the limitation of "estimating a transmitter IQ mismatch in a form of gain and phase response for transmitter I and Q paths sharing a receiver path," as recited by the Applicant in independent claim 1.

The Examiner states the following in page 2 of the Final Office Action:

"Kim et al teaches a method for measuring IQ path mismatch in transceivers, the method comprising: estimating a transmitter IQ mismatch in a form of gain and phase response for transmitter I and Q paths sharing a receiver path (see fig.9 element TX and col.2, lines 59-67 and col.3, lines 35-40 and col.6, lines 9-35 and col.10,lines 35-59); and estimating a receiver IQ mismatch in a form of gain and phase response for receiver I and Q paths sharing a signal source .(see fig.9 element RX and col.2, lines 59-67 and col.3, lines 35-40 and col.6, lines 9-35 and col.10,lines 35-59)."

The Applicant points out that Kim does not teach any estimating of a transmitter IQ mismatch where the IQ signals are sampled from the transmitter IQ path. **The Examiner is referred to FIG. 9 of Kim where it is shown that transmitter Mismatch Estimation block receives its inputs from the receiver IQ output path and not from the transmitter IQ path.** Kim teaches down-converting an up-converted RF signal at the transmitter output, and generating IQ components from the down-converted signal for IQ phase gain mismatch compensation. See Kim at col. 10, lines 34-58 and FIG. 9.

The Applicant maintains that Kim does not disclose or suggest at least the limitation of “estimating a transmitter IQ mismatch in a form of gain and phase response for transmitter I and Q paths sharing a receiver path,” as recited by the Applicant in independent claim 1.

Accordingly, independent claim 1 is not anticipated by Kim and is allowable. Independent claims 7, 13, and 18 are similar in many respects to the method disclosed in independent claim 1. Therefore, the Applicant submits that independent claims 7, 13, and 18 are also allowable over the references cited in the Office Action at least for the reasons stated above with regard to claim 1.

The Applicant also maintains the arguments stated in page 13 of the March 7, 2008 response, regarding allowability of claims 2, 5-6, 8, 11-12, 19, and 22-23.

III. The Proposed Combination of Kim and Chien Does Not Render Claims 3-4, 9-10, 14-17, and 20-21 Unpatentable

Based on at least the foregoing, the Applicant believes the rejection of independent claims 1, 7, 13, and 18 under 35 U.S.C. § 102(e) as being anticipated by Kim has been overcome and requests that the rejection be withdrawn. Additionally, since the additional cited reference (Chien) does not overcome the deficiencies of Kim, claims 3-4, 9-10, 14-17, and 20-21 depend from independent claims 1, 7, 13, and 18, respectively, and are, consequently, also respectfully submitted to be allowable at least for the reasons stated above with regard to allowability of claim 1. The Applicant also

reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 3-4, 9-10, 14-17, and 20-21.

In general, the Final Office Action makes various statements regarding claims 1-23 and the cited reference that are now moot in light of the above. Thus, the Applicant will not address such statements at the present time. However, the Applicant expressly reserves the right to challenge such statements in the future should the need arise (e.g., if such statement should become relevant by appearing in a rejection of any current or future claim). In addition, the Applicant maintains the inherency argument stated in pages 14-16 of the October 22, 2007 response.

IV. Conclusion

The Applicant respectfully submits that claims 1-23 of the present application should be in condition for allowance at least for the reasons discussed above and request that the outstanding rejections be reconsidered and withdrawn. The Commissioner is authorized to charge any necessary fees or credit any overpayment to the Deposit Account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

Respectfully submitted,

Date: 04-APR-2008

By: /Ognyan I. Beremski/
Ognyan Beremski, Reg. No. 51,458
Attorney for Applicant

McANDREWS, HELD & MALLOY, LTD.
500 West Madison Street, 34th Floor
Chicago, Illinois 60661
Telephone: (312) 775-8000
Facsimile: (312) 775 – 8100

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